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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/449,625	11/30/1999	HIROSHI OGAWA	Q56773	6506

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EXAMINER

LEE, SHUN K

ART UNIT PAPER NUMBER

2878

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/449,625

Applicant(s)

OGAWA, HIROSHI

Examiner

Shun Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 16.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Prosecution Application***

1. The request filed on 1 October 2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/449,625 is acceptable and a CPA has been established. An action on the CPA follows.

### ***Information Disclosure Statement***

2. The information disclosure statement filed 1 October 2002 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but some of the information referred to therein has not been considered.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 23 and 24 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a film thickness of 100  $\mu\text{m}$  to 1000  $\mu\text{m}$ , does not reasonably provide enablement for more than 1000  $\mu\text{m}$ . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Thus it is unclear from the specification how a 10 cm thick film can be made.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 4, and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki *et al.* (US 4,728,583).

In regard to claim 19, Yamazaki *et al.* disclose (Fig. 1) a radiation image conversion panel obtained by the method of manufacturing a radiation image conversion panel (7, 6, 5) in which a stimutable phosphor-containing coating solution (2), which contains at least a stimutable phosphor (column 6, line 4 to column 9, line 3) and a binder (column 9, lines 4-17), is applied to a support (5) by use of an extrusion coater (*i.e.*, two hopper type coating apparatus 1) such that the film thickness of a coated film (6) of the stimutable phosphor-containing coating solution is in the range of 300 to 800  $\mu\text{m}$  (which is within the range of 20  $\mu\text{m}$  to 1 mm; column 12, lines 8-14).

In regard to claim 1, the method steps are implicit for the apparatus of Yamazaki *et al.* since the structure is the same as the applicant's apparatus of claim 19.

In regard to claim 3 (which is dependent on claim 1), claim 4 (which is dependent on claim 1), claim 20 (which is dependent on claim 1), and claim 21 (which is dependent on claim 19), Yamazaki *et al.* also disclose (column 13, lines 53-59) that at least one of the support and the extrusion coater is moved, or that the speed of the movement is from 0.5 to 5 m/min (*e.g.*, 1.0 m/min).

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Applicant is advised that should claim 3 be found allowable, claim 4 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki *et al.* (US 4,728,583) in view of Yanagita *et al.* (US 5,877,504).

In regard to claim 5 (which is dependent on claim 1), claim 6 (which is dependent on claim 1), claim 7 (which is dependent on claim 3), claim 8 (which is dependent on claim 4), the method of Yamazaki *et al.* lacks that the viscosity of the stimuable phosphor-containing coating solution is from 1 to 10 Pa·s. Yanagita *et al.* teach that by optimizing the viscosity (e.g., 23 Ps  $\equiv$  2.3 Pa·s; see column 17, lines 39 and 40) of the coating solution, a high filling ratio of the phosphor can be obtained (column 5, lines 41-53). Therefore it would be obvious to one of ordinary skill to provide a stimuable phosphor-containing coating solution with a viscosity of 1 to 10 Pa·s in the method of Yamazaki *et al.*, in order to obtain a high filling ratio of the phosphor.

Applicant is advised that should claim 5 be found allowable, claim 6 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Applicant is advised that should claim 7 be found allowable, claim 8 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

9. Claims 9-12, 17, 18, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki *et al.* (US 4,728,583) in view of O'Brien (US 4,445,458).

In regard to claim 9 (which is dependent on claim 1), claim 10 (which is dependent on claim 1), claim 11 (which is dependent on claim 3), claim 12 (which is dependent on claim 4), and claim 22 (which is dependent on claim 1), the method of Yamazaki *et al.* lacks that the stimuable phosphor-containing coating solution is applied such that a gap A ( $\mu\text{m}$ ) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B ( $\mu\text{m}$ ) of the coated film of the stimuable phosphor-containing coating solution satisfy one of the following relational expression:  
$$0.75 \times B + 100 \mu\text{m} \leq A \leq 1.10 \times B + 130 \mu\text{m} \text{ or}$$

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$0.80 \times B + 110 \mu\text{m} \leq A \leq 1.05 \times B + 130 \mu\text{m}$ . O'Brien teaches (column 4, line 42 to column 5, line 3) that in order to obtain a high quality coating, a gap between a discharge opening at the tip of the extrusion coater and the support is to be adjusted  $\pm d$  (where  $d$  is in the range 0 to about 0.060 in  $\equiv 1524 \mu\text{m}$ ; see Fig. 3) depending on the coating solution flow properties, coating thickness, coating speed, and obtuse angle 64 (see Fig. 3). Therefore it would be obvious to one of ordinary skill to adjust the gap  $A$  (e.g.,  $0.75 \times B + 100 \mu\text{m} \leq A \leq 1.10 \times B + 130 \mu\text{m}$ ) in the method of Yamazaki *et al.*, in order to obtain a high quality coating as taught by O'Brien.

Applicant is advised that should claim 9 be found allowable, claim 10 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Applicant is advised that should claim 11 be found allowable, claim 12 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

In regard to claim 17 which is dependent on claim 1, the method of Yamazaki *et al.* lacks that the extrusion coater is disposed on a surface of a first plane,

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and the support is disposed on a roller whose axis is located parallel to a direction orthogonal to the direction in which the stimuable phosphor-containing coating solution is discharged in a second plane that is located above the discharge opening at the tip of the extrusion coater and parallel to the first plane, such that an angle formed by, on the one hand, the direction of the shortest distance between the tip discharge opening and, on the other hand, the roller and the second plane is from 0 to 30°. O'Brien teaches (column 3, lines 38-48) it is known in the art that an angle (A in Fig. 2) formed by the direction in which the coating solution is discharged (32 in Fig. 2) and a direction of the shortest distance between the tip discharge opening and the roller (which is parallel to R in Fig. 2) is need in order to properly apply a coating. Therefore it would be obvious to one of ordinary skill to provide an angle A (e.g., 5 to 60°) in the method of Yamazaki *et al.*, in order to properly apply a coating as taught by O'Brien.

In regard to claim 18 which is dependent on claim 1, the method of Yamazaki *et al.* lacks that the support is disposed on a roller with an axis and an angle formed by the direction in which the stimuable phosphor-containing coating solution is discharged and a plane formed by the axis and the discharge opening tip furthest away from the roller is from 5 to 60°. O'Brien teaches (column 3, lines 38-48) it is known in the art that an angle (A in Fig. 2) formed by the direction in which the coating solution is discharged (32 in Fig. 2) and a direction orthogonal to the web (*i.e.*, support; see R in Fig. 2) is need in order to properly apply a coating. Therefore it would be obvious to one of ordinary skill to provide an angle A (e.g., 5 to 60°) in the method of Yamazaki *et al.*, in order to properly apply a coating as taught by O'Brien.

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In regard to claim **23**, Yamazaki *et al.* in view of O'Brien is applied as in claim 9 above. Yamazaki *et al.* also disclose (Fig. 1) that the film thickness of a coated film (6) of the stimuable phosphor-containing coating solution is 100  $\mu\text{m}$  or more (e.g., 20  $\mu\text{m}$  to 1 mm; column 12, lines 8-14).

In regard to claim **24**, Yamazaki *et al.* in view of O'Brien is applied as in claim 22 above. Yamazaki *et al.* also disclose (Fig. 1) that the film thickness of a coated film (6) of the stimuable phosphor-containing coating solution is 100  $\mu\text{m}$  or more (e.g., 20  $\mu\text{m}$  to 1 mm; column 12, lines 8-14).

10. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki *et al.* (US 4,728,583) in view of Yanagita *et al.* (US 5,877,504) as applied to claims 5-8 above, and further in view of O'Brien (US 4,445,458).

In regard to claim **13** (which is dependent on claim 5), claim **14** (which is dependent on claim 6), claim **15** (which is dependent on claim 7), claim **16** (which is dependent on claim 8), O'Brien is applied as in claim 9 above.

Applicant is advised that should claim 13 be found allowable, claim 14 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Applicant is advised that should claim 15 be found allowable, claim 16 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two

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claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Response to Arguments***

11. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (703) 308-4860. The examiner can normally be reached on Tuesday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (703) 308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SL  
SL  
December 20, 2002

  
CONSTANTINE HANNAHER  
PRIMARY EXAMINER  
GROUP ART UNIT 2878